State of Utah

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Department of
Environmental Quality

William J. Sinclair
Acting Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

DAQE-IN0108920011-09

March 11, 2009

Phillip Solomon
St. George City Power
175 East 200 North
St. George, UT 84770

Dear Mr. Solomon:

Re: Intent to Approve: Removal of Testing Requirements on Millcreek Subsite Backup Generator
Washington County; CDS A; NSPS (Part 60), PSD, Title IV (Part 72 / Acid Rain)
Project Number: N010892-0011

The attached document is the Intent to Approve for the above-referenced project. The Intent to Approve is subject to public review. Any comments received shall be considered before an Approval Order is issued. The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an Approval Order. An invoice will follow upon issuance of the final Approval Order.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. The project engineer for this action is John Jenks, who may be reached at (801) 536-4459.

Sincerely,

Ty L Howard, Manager
New Source Review Section

TLH:JJ:kw

cc: Mike Owens
Southwest Utah Public Health Department

STATE OF UTAH

Department of Environmental Quality

Division of Air Quality

INTENT TO APPROVE: Removal of Testing Requirements on Millcreek Subsite Backup Generator

Prepared By: John Jenks, Engineer
Phone: (801) 536-4459
Email: jjenks@utah.gov

INTENT TO APPROVE NUMBER

DAQE-IN0108920011-09

Date: March 11, 2009

Red Rock, Millcreek and Bloomington Power Generation Stations

Source Contact:
Phillip Solomon
Phone: (435) 627-4800

Ty L Howard, Manager
New Source Review Section
Utah Division of Air Quality

ABSTRACT

St. George City power requested a reduction in the monitoring requirements on the diesel generator now located at the Millcreek substation. This generator is intended to be used as a black start generator, and therefore will only be used during emergency power outages and for regular testing and maintenance. Requiring regular testing of a device designed to operate only intermittently creates an onerous burden on the source. Therefore, the current testing requirements on the Millcreek diesel generator will be changed to visible emission observations. In addition, two minor typographical errors will be corrected. The first was the inclusion of the words "and Millcreek" to the title of condition II.B.3. Since the Millcreek diesel generator will have its own VEO conditions, this typographical error is no longer applicable. The second correction involves the rule reference for use of a CEM. This was mistakenly marked as R307-165. It should read R307-170.

The NOI for the above-referenced project has been evaluated and has been found to be consistent with the requirements of UAC R307. Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an AO by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-7. A notification of the intent to approve will be published in the Daily Spectrum on March 16, 2009. During the public comment period the proposal and the evaluation of its impact on air quality will be available for the public to review and provide comment. If anyone so requests a public hearing, it will be held in accordance with UAC R307-401-7. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated. The proposed conditions of the AO may be changed as a result of the comments received.

Name of Permittee:

St. George City Power
175 East 200 North
St. George, UT 84770

Permitted Location:

Red Rock, Millcreek and Bloomington Power Generation Stations
695 E. Skyline Dr.
St. George, UT 84770

UTM coordinates:271,750 m Easting, 4,108,800 m Northing
SIC code:4911 (Electric Services)

Section I: GENERAL PROVISIONS

I.1 All definitions, terms, abbreviations, and references used in this AO conform to those used in the UAC R307 and 40 CFR. Unless noted otherwise, references cited in these AO conditions refer to those rules. [R307-101]

I.2 The limits set forth in this AO shall not be exceeded without prior approval. [R307-401]

I.3 Modifications to the equipment or processes approved by this AO that could affect the emissions covered by this AO must be reviewed and approved. [R307-401-1]

I.4 All records referenced in this AO or in other applicable rules, which are required to be kept by the

owner/operator, shall be made available to the Executive Secretary or Executive Secretary's representative upon request, and the records shall include the two-year period prior to the date of the request. Unless otherwise specified in this AO or in other applicable state and federal rules, records shall be kept for a minimum of two (2) years. [R307-401]

I.5 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this AO, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded. [R307-401-4]

I.6 The owner/operator shall comply with R307-150 Series. Inventories, Testing and Monitoring. [R307-150]

I.7 Stack testing to show compliance with the emission limitations stated in this permit shall be performed as follows:

The Executive Secretary shall be notified at least 30 days prior to conducting any required emission testing. A source test protocol shall be submitted to DAQ when the testing notification is submitted to the Executive Secretary. The source test protocol shall be approved by the Executive Secretary prior to performing the test(s). The source test protocol shall outline the proposed test methodologies, stack to be tested, and procedures to be used. A pretest conference shall be held, if directed by the Executive Secretary.

The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, or other methods as approved by the Executive Secretary. An Occupational Safety and Health Administration (OSHA) or Mine Safety and Health Administration (MSHA) approved access shall be provided to the test location. [R307-165]

I.8 The owner/operator shall comply with UAC R307-107. General Requirements: Unavoidable Breakdowns. [R307-107]

Section II: SPECIAL PROVISIONS

II.A The approved installations shall consist of the following equipment:

II.A.1 **Permitted Source**
Equipment located at the Red Rock, Millcreek and Bloomington Power Generation Stations

II.A.2 **Red Rock: Diesel Fuel Internal Combustion Engines**
Two 9,750 HP diesel engines located at the Red Rock facility

II.A.3 **Bloomington: Diesel Generators/Engines**
Six Caterpillar 3516 diesel generators/engines located at the Bloomington facility, each with design rating of 1,750 kW

II.A.4 **Bloomington: Above Ground Storage Tanks**
Three above ground diesel fuel storage tanks, with capacity of 10, 000 gallons each

II.A.5 **Millcreek: Natural Gas Turbine (existing)**
One GE LM6000-PD Dry Low Emission (DLE) natural gas-fired turbine generator set with a nominal output of 39.1 MW, turbine stack 45 feet high measured from the ground level, NSPS GG

II.A.6 **Redrock: Emergency Generator**
One 750 kW diesel-fired emergency generator

II.A.7 **Millcreek: Diesel Generator/Engine**
Caterpillar 3516 diesel generator/engine located at the Millcreek facility, with design rating of 1,750 kW

II.A.8 **Redrock: Fuel Storage Tanks**
Four miscellaneous fuel storage tanks

II.A.9 **Millcreek: Natural Gas Turbines (new)**
Two GE LM6000-PD Dry Low Emission (DLE) natural gas-fired turbine generator set with a nominal output of 39.1 MW, SCR equipped, NSPS Subpart KKKK

II.B Requirements and Limitations

II.B.1 **Conditions on Permitted Source**

II.B.1.a The sulfur content of any fuel oil combusted at this source shall be no greater than 0.05 % by weight. [R307-203-1]

II.B.1.a.1 For each delivery of oil, the permittee shall either:

(a) Determine the fuel sulfur content expressed as wt% in accordance with the methods of the American Society for Testing Materials (ASTM); or

(b) Inspect the fuel sulfur content expressed as wt% determined by the vendor using methods of the ASTM; or
(c) Inspect documentation provided by the vendor that indirectly demonstrates compliance with this provision.
[R307-203-1]

II.B.2 **Conditions on Diesel Fuel Internal Combustion Engines (Red Rock subsite)**

II.B.2.a Visible emissions shall be no greater than 20 percent opacity. [R307-401-8]

II.B.2.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-165]

II.B.2.b Emissions of NO_x shall be no greater than 10 gm/hp-hr for each engine. [R307-401-8]

II.B.2.b.1 Emissions of NO_x shall be tested using 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by the Executive Secretary. [R307-165]

II.B.2.c Total emissions of NO_x shall be no greater than 424 tons per rolling 12-month period. [R307-401-8]

II.B.2.c.1 The emissions shall be determined on a rolling 12-month total. Within the first 10 days of each month a new 12-month total shall be calculated using data from the previous 12 months.

The following equation shall be used to calculate each month emissions in order to get rolling 12-month emissions from each engine:

Emissions (tons/month period) = (Power production in total kW-hrs for previous month) x (Most Recent Emission factor in gm/hp-hr) x (1 hp/0.7457 kW) x (1 lb/453.59 gm) x (1 ton/2000 lbs)

Total emissions shall be the sum of emissions from each internal combustion engine.

The number of kilowatt-hours generated by each engine shall be monitored continuously by a kilowatt-hour meter and recorded on a daily basis. Emission factors shall be derived from the most recent emission test results. [R307-150]

II.B.2.d Emissions of CO shall be no greater than 2.4 gm/hp-hr for each engine. [R307-401-8]

II.B.2.d.1 Emissions of CO shall be tested using 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the Executive Secretary. [R307-165]

II.B.2.e Total emissions of CO shall be no greater than 101.8 tons per rolling 12-month period. [R307-401-8]

II.B.2.e.1 The emissions shall be determined on a rolling 12-month total. Within the first 10 days of each month a new 12-month total shall be calculated using data from the previous 12 months.

The following equation shall be used to calculate each month emissions in order to get rolling 12-month emissions from each engine:

Emissions (tons/month period) = (Power production in total kW-hrs for previous month) x (Most Recent Emission factor in gm/hp-hr) x (1 hp/0.7457 kW) x (1 lb/453.59 gm) x (1 ton/2000 lbs)

Total emissions shall be the sum of emissions from each internal combustion engine.

The number of kilowatt-hours generated by each engine shall be monitored continuously by a kilowatt-hour meter and recorded on a daily basis. Emission factors shall be derived from the most recent emission test results. [R307-150]

II.B.3 **Conditions on Diesel Generators/Engines (Bloomington subsite)**

II.B.3.a Visible emissions shall be no greater than 20 percent opacity. [R307-401-8]

II.B.3.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-165]

II.B.3.b Emissions of NO_x shall be no greater than 30 lb/hr for each engine. [R307-401-8]

II.B.3.b.1 Emissions of NO_x shall be tested using 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, 7E, or other testing methods approved by the Executive Secretary. [R307-165]

II.B.3.c Emissions of CO shall be no greater than 30 lb/hr for each engine. [R307-401-8]

II.B.3.c.1 Emissions of CO shall be tested using 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the Executive Secretary. [R307-165]

II.B.3.d Hours of operation shall be no greater than 6,328 hours per rolling 12-month period for all seven engines combined. [R307-401-8]

II.B.3.d.1 The permittee shall calculate the combined engine operating hours for a rolling 12-month period no later than 10 days after the end of that rolling 12-month period. Operating hours for each engine shall be determined from each engine's hour meter. The operating hours for each engine shall be added together to determine the combined operating hours for the 12-month period. [R307-401-8]

II.B.3.e The minimum stack height shall be no less than 21 feet above ground level for each engine. [R307-401-8]

II.B.4 **Conditions on Existing Natural Gas Turbine (Millcreek subsite)**

II.B.4.a Visible emissions shall be no greater than 10 percent opacity. [R307-401-8]

II.B.4.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-165]

II.B.4.b Emissions of NO_x shall be no greater than 25 ppmv @ 15% O_2 and 33.5 lb/hr based on 30-day rolling average. [R307-401-8]

II.B.4.b.1 Emissions of NO_x shall be tested using 40 CFR 60, Appendix A, Method 20 as specified in NSPS subpart GG. [40 CFR 60]

II.B.4.b.2 The daily average of NO_x emissions shall be calculated once for each day and the 30-day rolling average shall be calculated by adding the previous 30 days data on a daily basis. [R307-170]

II.B.4.c Emissions of CO shall be no greater than 25 ppmv @ 15% O_2 and 20.37 lb/hr. [R307-401-8]

II.B.4.c.1 Emissions of CO shall be tested using 40 CFR 60, Appendix A, Method 10, or other testing methods approved by the Executive Secretary. [R307-170]

II.B.4.d Hours of operation shall be no greater than 2,000 hours (including startups and shutdowns) per rolling 12-month period. [R307-401-8]

II.B.5 **Conditions on new Natural Gas Turbines (Millcreek subsite)**

II.B.5.a Visible emissions shall be no greater than 10 percent opacity. [R307-401-8]

II.B.5.a.1 Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-165]

II.B.5.b Emissions of NO_x for each turbine shall be no greater than 2.5 ppmv @ 15% O_2 and 3.6 lb/hr based on 30-day rolling average for normal operations. Emissions during startup and shutdown periods shall not exceed 46.0 lb/hr for each turbine. Total combined emissions of NO_x from both turbines shall not exceed 33.3 tons per rolling 12-month period. [R307-401-8]

II.B.5.b.1 Emissions of NO_x shall be monitored through use of a continuous emissions monitoring system (CEMS) as specified in NSPS Subpart KKKK. [R307-170]

II.B.5.c Emissions of CO for each turbine shall be no greater than 6 ppmv @ 15% O_2 and 5.21 lb/hr during normal operations. Emissions during startup and shutdown periods shall not exceed 37 lb/hr for each turbine. Total combined emissions of CO from both turbines shall not exceed 34.3 tons per rolling 12-month period. [R307-401-8]

II.B.5.c.1 Emissions of CO shall be monitored through use of a continuous emissions monitoring system (CEMS) as specified in NSPS Subpart KKKK. [R307-170]

II.B.5.d Fuel combusted shall not exceed potential sulfur emissions of 0.060 lb SO_2/MMBtu heat input. [R307-401-8]

II.B.6 **Conditions on Millcreek Black Start Generator**

II.B.6.a Visible emissions shall be no greater than 20 percent opacity. [R307-401-8]

II.B.6.b Opacity observations of emissions from stationary sources shall be conducted according to 40 CFR 60, Appendix A, Method 9. [R307-165]

Section III: APPLICABLE FEDERAL REQUIREMENTS

In addition to the requirements of this AO, all applicable provisions of the following federal programs have been found to apply to this installation. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations including UAC R307.

Title IV (Part 72 / Acid Rain), (No subparts)
NSPS (Part 60), GG: Stationary Gas Turbines
NSPS (Part 60), KKKK: Stationary Combustion Turbines

PERMIT HISTORY

The final AO will be based on the following documents:

Supersedes	NSR0108920009 dated September 30, 2008

ACRONYMS

The following lists commonly used acronyms and their associated translations as they apply to this document:

40 CFR	Title 40 of the Code of Federal Regulations
AO	Approval Order
ATT	Attainment Area
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CDS	Classification Data System (used by EPA to classify sources by size/type)
CEM	Continuous emissions monitor
CEMS	Continuous emissions monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COM	Continuous opacity monitor
DAQ	Division of Air Quality (typically interchangeable with UDAQ)
DAQE	This is a document tracking code for internal UDAQ use
EPA	Environmental Protection Agency
HAP or HAPs	Hazardous air pollutant(s)
ITA	Intent to Approve
MACT	Maximum Achievable Control Technology
NAA	Nonattainment Area
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NO_x	Oxides of nitrogen
NSPS	New Source Performance Standard
NSR	New Source Review
PM_{10}	Particulate matter less than 10 microns in size
$PM_{2.5}$	Particulate matter less than 2.5 microns in size
PSD	Prevention of Significant Deterioration
R307	Rules Series 307
R307-401	Rules Series 307 - Section 401
SO_2	Sulfur dioxide
Title IV	Title IV of the Clean Air Act
Title V	Title V of the Clean Air Act
UAC	Utah Administrative Code
UDAQ	Utah Division of Air Quality (typically interchangeable with DAQ)
VOC	Volatile organic compounds